



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/472,818	12/28/1999	KIYOHICO YAMAYA	TESJ.0014	9250

7590 11/25/2003  
REED SMITH HAZEL & THOMAS LLP  
3110 FAIRVIEW PARK DRIVE  
SUITE 1400  
FALLS CHURCH, VA 22042

EXAMINER

GRAHAM, ANDREW R

ART UNIT	PAPER NUMBER
----------	--------------

2644

9

DATE MAILED: 11/25/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

TS

# Office Action Summary

Application No.

09/472,818

Applicant(s)

YAMAYA, KIYOHICO

Examiner

Andrew Graham

Art Unit

2644

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on September 22, 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 September 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

Art Unit: 2644

#### **DETAILED ACTION**

##### ***Drawings***

1. The replacement drawings were received on September 22, 2003.

These drawings are approved except for one minor informality in Figure

4. In Figure 4, the lead line for reference label '5' points to the sound board (c1) instead of the angle adjusting mechanism as it does in Figure 6. The currently submitted drawings will be entered into the case, however, appropriate correction is required in regards to the Figure discussed above. The applicant's assistance is respectfully requested in correcting any minor informalities of a similar nature, but are not specifically listed above.

##### ***Specification***

2. The amendments made to the Abstract of the Disclosure have been acknowledged, approved, and entered into the case.

The disclosure is objected to because of the following informalities: On page 13, line 7, the "stationary member" is referred to as "C", but the explanation of symbols on page 18 refers to a stationary member as (B), not (C).

Appropriate correction is required. The applicant's assistance is respectfully requested to correct any minor informalities of a similar nature that are not specifically listed above.

Art Unit: 2644

***Response to Amendment***

3. The amendments made in response the previous rejections made under 35 U.S.C. 112 2<sup>nd</sup> paragraph to Claims 1, 7, 9, and 12-14 have appropriately addressed the issue(s) upon which each rejection was based. Accordingly, each of the rejections previously made under 35 U.S.C. 112 2<sup>nd</sup> paragraph are hereby withdrawn.

4. Issues with Claims 13 and 14 though, cited previously under 37 CFR 1.75(c), have not yet been resolved. Regarding Claim 10, the issue in regards to the objection under 37 CFR 1.75(c) has been resolved, and said respective objection is hereby withdrawn. The objections in regards to Claims 13 and 14 have been repeated below, and further explained in a manner which will hopefully clarify the issues involved with the objections as well as the changes that need to be made.

***Claim Objections***

5. **Claims 13 and 14** are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. The material disclosed in each of these claims is included in the parent claim, Claim 1. Claim 13 includes the limitation "the stationary member is formed as at least one of a cast iron plate, a pin block, ...". Claim 1 recites the limitation "wherein said stationary member is

Art Unit: 2644

a cast iron plate of a piano body". Thus, the limitation of "at least one of a cast iron plate" of Claim 13 is already met by Claim 1 because Claim 1 specifically includes a cast iron plate. In fact, Claim 13 attempts to broaden the scope presented in Claim 1, which previously limited the stationary member to being a cast-iron plate. Claim 14 attempts to do the same thing, wherein Claim 1 states that the sound source member is a sound board, but Claim 14 states that the sound source member is at least a sound board or other components. Again, the limitation of Claim 1 already meets this limitation.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. **Claims 8 and 9** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

**Claims 8 and 9** recite the limitation "the main arm member". There is insufficient antecedent basis for this limitation in the claim.

Art Unit: 2644

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. **Claims 1, 3-7, and 10-15** are rejected under 35 U.S.C. 103(a) as being unpatentable over Izdebski et al (USPN 4290331) in view of applicant's admitted prior art.

Izdebski discloses a pick-up device for an instrument that involves a threaded contact member used for selectively adjusting the pressure applied to a sounding member of the instrument and thereby adjusting the pressure applied to the sensor means. Specifically, Izdebski discloses a pick-up (7) that includes a piezo-electric crystal (9) which is positioned between a contact post (11) and a screw (12) (col. 1, lines 52-60). This screw (12) can be adjusted to increase or decrease the pressure placed on the crystal (9), and correspondingly, the pressure placed on the bridge (5) of the stringed instrument (1), which in the depicted embodiment is a guitar (col. 1, lines 65-67). The piezo-electric crystal (9) reads on "a sensor member" and the post (11) reads on "and a second contact member which is in contact with a sound source member". The screw (12) and the ability it has to reposition the post (11) reads on "a length-adjusting mechanism provided one or both of first and second contact

Art Unit: 2644

members". The overall functioning of the device, picking up the vibration of the applied to the strings of the guitar (1) reads on "vibration force applied from said stationary member and said sound source member is converted into electrical energy" (col. 1, lines 67-68 and col. 2, lines 1-12). The pickup device of Izdebski also has another contact member, the housing (8), but it is glued to a non-stationary member of the sound device (1), the bridge (5).

Yet, Izdebski does not specify:

- the device being a pickup apparatus of a piano
- a first contact member which is in contact with a stationary member

However, the applicant's disclosure admits that this particular feature and area of application are already well known in the art. On page 2, lines 24-27, the applicant discloses that a related form of pickup device involves attaching the pickup sensor using two mounting devices, one of which is connected to a sound board of a piano, the other of which is connected to a backup plate of a piano. The latter of these two mountings reads on "a first contact member which is in contact with a stationary member". The use of such a device in a piano reads on "A pickup apparatus of a piano". Regarding the material of which the backup plate is formed, the examiner notes that "cast iron plates" are a standard in the industry and well known to one of ordinary skill in the art at the time the invention was made. The references of Mayerjak (USPN 4377102) and Graves (USPN 4155284)

Art Unit: 2644

have been provided to support for the examiner's position on this matter.

To one of ordinary skill in the art at the time the invention was made, it would have been obvious to mount the housing of Izdebski on a stationary member of the sound device as disclosed as part of the applicant's prior known art. The motivation behind such a modification would have been that attaching the housing to a stationary component of the sound device would have increased the detection of the sound waves because the sound waves would have just moved the post connected to the sensor, instead of both the sensor and the overall device.

Regarding **Claim 3**, Izdebski discloses that the crystal sensor (9) of the invention includes a pair of electrodes coupled to leads for outputting an electrical signal to an amplifier in the conventional manner (col. 1, lines 67-68 and col. 2, lines 1-4). Considering the filing date of the invention, 1979, the "conventional manner" of connecting a guitar to an amplifier would have inherently included detachable cords based on the reasoning of interchangeability between guitars and amplifiers as well as the increased portability of separate components. Thus, the electrical connections of Izdebski read on "said sensor member is provided with a plurality of detachable electric signal output connector members".

Regarding **Claim 4**, the connection post (11) and the mounting (8) are provided with a foam rubber mounting (10) and an additional foam block (10') that cushion the two mounting members as well as the crystal



Art Unit: 2644

sensor (9) (col. 1, lines 53-60). The two foam components read on "provided with a viscoelastic member and a mass which serve as mechanical vibration filter". The use of vibration absorbers as mechanical filters is also considerably well known in the art.

Regarding **Claim 5**, the prior known art in the applicant's disclosure discussed the use of two mounting members, which reads on "one or both of said first and second contact members are in contact with said stationary member through a single or plurality of mounting members between said stationary member or said sound source member" (page 2, lines 24-27).

Regarding **Claim 6**, the prior known art detailed in the disclosure involves the use of a piezo-electric element, which reads on "the sensor member (1) of the pickup apparatus body (D) comprises piezoelectric force pickup means" (page 2, line 21-24).

Regarding **Claim 7**, the device of Izdebski includes a screw (12) that, in view of the modifications discussed in regards to Claim 1 reads on a "length adjusting mechanism", is connected to the housing (8) of the device through a threaded aperture (13) (col. 1, lines 62-65). The screw (12) itself reads on "the screw portion (11)", the post (11) between the screw (12) and the bridge (5) reads on "a member related to the screw portion (11) and the sound source member (C)", and the bridge (5) reads on "the sound source member (C)". The face of the housing (8) that includes the threaded aperture (13) and connects the screw (12) to the rest of the housing (8) reads on "a main arm member (12) threadedly engaged with the screw portion".

Art Unit: 2644

Regarding **Claim 10**, please refer to the like teachings of Claim 1, noting that the pickup sensor in the device of Izdebski includes a wooden coupling means (11) for contacting the sound source member. The deformation which contact pressure imparts on this wooden piece reads on "through a contact trace".

Regarding **Claim 11**, please refer to the like teachings of Claim 4.

Regarding **Claim 12**, please refer to the like teachings of Claim 4, noting that the elastic members of the system of Izdebski are made of foam and foam rubber, which reads on "the viscoelastic body (25) is made of rubber or sponge" (col. 1, lines 53-60).

Regarding **Claim 13**, please refer to the like teachings of Claim 1, noting that the applicants disclosure details a related invention wherein one of the mounting means is attached to the backup plate of the piano (page 2, lines 24-27).

Regarding **Claim 14**, please refer to the like teachings of Claim 1, noting that the applicants disclosure details a related invention wherein one of the mounting means is attached to the sound board of the piano (page 2, lines 24-27).

Regarding **Claim 15**, please refer to the like teachings of Claim 3.

8. **Claim 2** is rejected under 35 U.S.C. 103(a) as being unpatentable over Izdebski in view of applicant's admitted prior art as applied above, and further in view of well known prior art.

As detailed above, Izdebski discloses a pickup apparatus for an audio device that included a screw for adjusting the pressure put on

Art Unit: 2644

the contact member between a piezoelectric sensor and a sounding device. The applicant's admitted prior art disclosed that previous versions of related inventions included the positioning of the pickup apparatus between a stationary and sounding member of the audio device.

Yet, Izdebski in view of applicant's admitted prior art does not specify:

- that one or both of the contact members include angle-adjusting mechanisms

However, the examiner takes official notice that, within the concept of flushly securing one surface to another, the concept of including a ball joint type angle adjusting mechanism is well-known in the art. Mechanically, this type of connection is readily apparent in C-clamps, mechanical devices used to firmly secure objects together such as lumber in construction projects. It is well known in the mechanical arts for the adjustable screw portion of these C-clamps to include a rotatable head for adapting the grip of the clamp to a number of possible angles of the relevant face of the object being secured. This adjustable head of the C-clamp reads on "angle-adjusting mechanisms capable of contacting with said stationary member of said sound source member at arbitrary angle".

To one of ordinary skill in the art at the time the invention was made, it would have been obvious to modify the invention of Izdebski in view of the applicant's admitted prior art by modifying the post (11) of Izdebski by adding an adjustable head. Such a modification

Art Unit: 2644

would have been desirable because it would have ensured the same relative amount of contact during use between the sounding board and the post (11) of Izdebski. The relatively equal amount of contact during the use of the audio apparatus would have promoted a relatively unchanging degree of sound quality throughout the use of the pick-up apparatus.

9. **Claims 8 and 9** are rejected under 35 U.S.C. 103(a) as being unpatentable over Izdebski in view of applicant's admitted prior art as applied above, and further in view of Johnson (USPN 4022100).

As detailed above, Izdebski discloses a pickup apparatus for an audio device that included a screw for adjusting the pressure put on the contact member between a piezoelectric sensor and a sounding device. The applicant's admitted prior art disclosed that previous versions of related inventions included the positioning of the pickup apparatus between a stationary and sounding member of the audio device.

Yet, in terms of the specifics in which the pick-up device is secured to the piano, Izdebski in view of the applicant's admitted prior art does not specify:

- a main arm member
- bar-like subarms rotatably extending from the main arm member that are in contact with the stationary member

Johnson discloses a fastener for a hollow wall that includes rotatable arms connected to a main plate that are used to secure the

Art Unit: 2644

overall device to the wall. As can be seen in Figures 1-5, Johnson's invention (1) is inserted into a hole (24) in the wall and the arms (7) are then extended to secure the device to the wall (20) (col. 2, lines 43-51). The fastener itself is also used to secure another member (25) (col. 2, lines 57-61). When this member (25) is inserted in the fastener, it is connected through the upper body (2) of the device. This upper body (2) and its thin flanges (4) reads on "the main arm member". The arms (7) read "bar-like sub-arms (13) rotatably mounted to opposite ends of the main arm member (12) and the other ends of the sub-arms are in contact with a stationary member", wherein the hollow wall in this situation represents the functional equivalent of the stationary member.

To one of ordinary skill in the art at the time the invention was made, it would have been obvious to use the fastener device of Johnson to secure the threaded type pickup device of Izdebski in view of the applicant's admitted prior art. The motivation behind such a modification would have been that the physical size of the fastener would have held the pickup in place without the need of additional securing means. The fastener would have also allowed the pick-up device to easily be inserted into and removed from the piano, and it would have also been able to form the fastener as a single, molded component.

Regarding **Claim 9**, please refer to the like teachings of Claim 8.

Art Unit: 2644

*Response to Arguments*

10. Applicant's arguments received September 22, 2003 have been fully considered but they are not persuasive.

On page 9, lines 12-14, the applicant has stated, "the '331 patent fails to disclose, teach, or suggest ' a stationary member is a cast iron plate of a piano body' ". In response, the respectfully notes that the reference of Izdebski was not relied upon in the previous office action for the rejection of this limitation. The applicant's admitted prior art establishes the structure and environment for such a pickup device, and the reference of Izdebski is particularly relied upon for the 'length adjusting mechanism' described in the claim. The reference of Izdebski, which pertains predominantly to guitars, is combined with the applicant's admitted prior art, which pertains predominantly to pianos, under the premise of the similar musical operation of the two stringed instruments, as well as the analogous nature of their respective pickup devices, which require physical contact in order to pick-up or further transduce the traveling waves initially produced by the vibrating strings.

On page 9, lines 24-26, the applicant has stated, "neither the primary reference of the admitted prior art provides any disclosure or teaching that would motivate the application of the '331 structure to a piano". The examiner respectfully disagrees. As noted above, the analogous operation of pick-up devices for the two stringed musical devices provides the source of the proposed combination of the two teachings. The motivation for the combination is based on the

Art Unit: 2644

improvement in sound detection or pick-up that the device of Izdebski would have provided in the similar environment of the applicant's admitted prior art, as was listed in the previous office action. Contact with a sound source element is a critical aspect of sound pickup devices, including those used in pianos, and Izdebski teaches a manner for improving the quality and the characteristic of the physical contact.

On page 9, lines 26-29, the applicant has stated, "neither reference provides any motivation for their combination so as to embody all the elements of the present invention as now claimed" and "The present invention as claimed in claim 1 is distinguishable over the cited prior art". The examiner respectfully disagrees. Both the motivation and the basis upon which the applicant's claimed limitations are not distinguishable over the cited prior art have been addressed in the previous two paragraphs. As is such, the rejections of Claim 3-7 and 10-15 and the remaining claims are maintained based upon the same grounds as detailed above.

On page 10, the applicant has stated, "Applicants carefully reviewed the '331 patent and can not find any suggestion to modify the invention by 'modifying the post.... by adding an adjustable head' nor about the desirability of such modification". In response, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in

Art Unit: 2644

the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, the teachings of the references and the knowledge generally available to one of ordinary skill in the art include the concept that the contact maintained between the pick-up device and the sound source member is an important aspect of the design and resulting quality of a pick-up device. This concept, along with the concept that the sound source member is vibrating in transferring the sound waves, provides the motivation for combining the teachings of mechanical prior art because the cited prior art teaches a method for maintaining a required degree of contact with variously angled or positionable surfaces.

On page 11, lines 7-8, the applicant has stated, "Applicants carefully reviewed the '100 patent and cannot find any suggestion in the patent that the fastener might be used within a piano". In response to this argument of nonanalogous art, it has been held that a prior art reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the applicant was concerned, in order to be relied upon as a basis for rejection of the claimed invention. See *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992). In this case, the fastener is reasonably pertinent to the peculiar problem with which the applicant was concerned, which was a mounting structure for the sound sensor component. The reference of Johnson discloses a



Art Unit: 2644

device for securing a component to a panel of another component, in a manner analogous to that which the applicant has claimed. The arms (7) are considered to read on "bar-like sub-arms" and a "plurality of sub-arms" and the teeth (19) read on "projecting contact portions".

### ***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew Graham whose telephone number is (703) 308-6729. The examiner can normally be reached on Monday-Friday (7:30-4:30), excluding alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bill Isen, can be reached at (703) 305-4386. The fax number for the organization where this application or

Art Unit: 2644

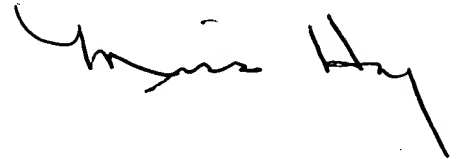
proceeding is assigned is 703-872-9314 for regular communications, and 703-872-9315 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

AG

Andrew Graham  
Examiner  
A.U. 2644

ag  
November 20, 2003



MINSUN OH HARVEY  
PRIMARY EXAMINER